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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/776,086	02/02/2001	Gary S. Selwyn	S-91,756	9416

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EXAMINER	
ZERVIGON, RUDY	
ART UNIT	**PAPER NUMBER**
1763	

DATE MAILED: 06/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/776,086	SELWYN ET AL.	
	Examiner	Art Unit	
	Rudy Zervigon	1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 January 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6 and 9-15* is/are rejected.

7)☒ Claim(s) *7,8,16 and 17* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 February 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 10, 2005 has been entered.

Drawings

2. The corrected or substitute drawings were received on September 9, 2002. These drawings are acceptable.

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the first and second power sources must be shown or the features canceled from the claims. No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102/103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1-5 and 9-14 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Woolley et al (USPat. 5,743,966). Woolley et al teaches: Apparatus (Figure 1) for processing materials (18) in an AC-powered plasma

comprising: an electrically conductive enclosure (26; Figure 1; column 2; lines 45-65) defining an interior space with a surface and inlets (30,28; Figure 1; column 2; lines 45-65) for a gas (30,28) and for entry and exit of a material ("web material 18"; column 2; lines 45-55) to be processed (see Figure); an cylindrical, rotating roller, electrode (14; Figure 1; column 2; lines 45-65) spaced apart from the electrically conductive enclosure (26; Figure 1; column 2; lines 45-65) and capable of placing the material ("web material 18"; column 2; lines 45-55) to be processed inside the interior space between the electrically conductive enclosure (26; Figure 1; column 2; lines 45-65) and the cylindrical, rotating roller, electrode (14; Figure 1; column 2; lines 45-65), the material ("web material 18"; column 2; lines 45-55) to be processed being in contact with the cylindrical, rotating roller, electrode (14; Figure 1; column 2; lines 45-65); wherein a gas introduced into the inlet for gas and an AC-powered voltage applied between the electrically conductive enclosure (26; Figure 1; column 2; lines 45-65) and the cylindrical, rotating roller, electrode (14; Figure 1; column 2; lines 45-65) creates a plasma (column 2, lines 45-55) in the interior space for processing the material ("web material 18"; column 2; lines 45-55) to be processed as it passes through the electrically conductive enclosure (26; Figure 1; column 2; lines 45-65); a mechanical action roller ("rotatable drum 14"; column 2; lines 45-55) for placing said material ("web material 18"; column 2; lines 45-55) to be processed inside said interior space on said cylindrical, rotating roller, electrode (14; Figure 1; column 2; lines 45-65) and between said cylindrical, rotating roller, electrode (14; Figure 1; column 2; lines 45-65) and said electrically conductive enclosure (26; Figure 1; column 2; lines 45-65) Applicant's claim 1 and 9 limitation of "the interior space at or near atmospheric pressure", and "containing a majority of inert gas" are claim requirements of intended use of the pending apparatus claims. Further, it has

been held that claim language that simply specifies an intended use or field of use for the invention generally will not limit the scope of a claim (Walter , 618 F.2d at 769, 205 USPQ at 409; MPEP 2106). Additionally, in apparatus claims, intended use must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim (In re Casey,152 USPQ 235 (CCPA 1967); In re Otto , 136 USPQ 458, 459 (CCPA 1963); MPEP2111.02).

Woolley further teaches:

i. The apparatus as described in Claim 9, wherein said cylindrical, rotating roller, electrode (14; Figure 1; column 2; lines 45-65) and said electrically conductive enclosure (26; Figure 1; column 2; lines 45-65) are cylindrically shaped – Figure 1, as claimed by claim 10

ii. The apparatus as described in Claim 9, wherein said cylindrical, rotating roller, electrode (14; Figure 1; column 2; lines 45-65) is a rotating roller (14') – Figure 2, as claimed by claim 11

iii. The apparatus as described in Claim 9, wherein said gas is comprised of an inert gas and a chemically reactive gas – column 3, lines 4-13, as claimed by claim 12. However, Applicant's claim limitation of gas identity does not further limit the pending apparatus claims. It has been held that claim language that simply specifies an intended use or field of use for the invention generally will not limit the scope of a claim (Walter , 618 F.2d at 769, 205 USPQ at 409; MPEP 2106). Additionally, in apparatus claims, intended use must result in a structural difference between the claimed invention and the prior art in

order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim (In re Casey,152 USPQ 235 (CCPA 1967); In re Otto , 136 USPQ 458, 459 (CCPA 1963); MPEP2111.02).

iv. The apparatus as described in Claim 12, wherein said inert gas is helium and said chemically reactive gas contains oxygen, as claimed by claim 13 – although Woolley et al does not teach the use of helium gas as an alternative to argon gas, and that Woolley et al does not teach atmospheric pressure operation of the apparatus, it is well established that such limitations are statements of intended use (See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963)).

Woolley is not specific in teaching his AC power source (16; Figure 1) is operated in the radio-frequency range. However, the Examiner believes this requirement may be considered an intended use of Woolley's AC power source (16; Figure 1). Further, it has been held that claim language that simply specifies an intended use or field of use for the invention generally will not limit the scope of a claim (Walter , 618 F.2d at 769, 205 USPQ at 409; MPEP 2106). Additionally, in apparatus claims, intended use must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim (In re Casey,152 USPQ 235 (CCPA 1967); In re Otto , 136 USPQ 458, 459 (CCPA 1963); MPEP2111.02).

In the event that Woolley's AC power source (16; Figure 1) is considered not to teach power application in the radio-frequency range:

It would have been obvious to one of ordinary skill in the art at the time the invention was made to operate Woolley's AC power source (16; Figure 1) in the radio-frequency range.

Motivation to operate Woolley's AC power source (16; Figure 1) in the radio-frequency range is for optimizing the operation of Woolley's AC power source for plasma state generation of the process gases. Further, it would be obvious to those of ordinary skill in the art to optimize the operation of the claimed invention (In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980); In re Hoeschele , 406 F.2d 1403, 160 USPQ 809 (CCPA 1969); Merck & Co. Inc . v. Biocraft Laboratories Inc. , 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied , 493 U.S. 975 (1989); In re Kulling , 897 F.2d 1147, 14 USPQ2d 1056 (Fed. Cir. 1990), MPEP 2144.05).

Claim Rejections - 35 USC § 103

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 1-6, and 9-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over John D. Fales (USPat. 3,959,104) in view of Wooley et al (USPat. 5,743,966). Fales teaches an apparatus (Fig.5,10) for processing materials in a radio-frequency (122, Fig.10; "low frequency", column 4, line 49) plasma (column 4, lines 39-56) comprising: an electrically conductive enclosure (107, Fig.10) defining an interior space with a surface and openings for introduction of a gas (109; Fig.10) and for entry (102; column 7, lines 1-22) and exit (110) of a material (101) to be processed; an electrode (106abc; 105abc; column 7, lines 1-22) situated inside the interior space and spaced apart from the surface of the interior space a distance sufficient to allow placement of the material to be processed (Fig.10, 5); a mechanical action (104; column 7, line 8) for placing the material to be processed inside the interior space between the electrode and the

electrically conductive enclosure (107, Fig.10; column 9, lines 9-15); wherein a gas is introduced into the interior space through the opening for introduction of a gas (column 9, lines 29-35).

Fales further teaches:

i. The apparatus as described in Claim 1, wherein the means for placing the material to be processed comprises a roller (104; column 7, line 8), as claimed by claim 2

ii. The apparatus as described in Claim 1, wherein the gas is comprised of an inert gas and a chemically reactive gas (column 9, lines 29-35), as claimed by claim 3. Applicant's apparatus claim requirements of gas indentity is a claim requirement of intended use. Further, it has been held that claim language that simply specifies an intended use or field of use for the invention generally will not limit the scope of a claim (Walter , 618 F.2d at 769, 205 USPQ at 409; MPEP 2106). Additionally, in apparatus claims, intended use must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim (In re Casey,152 USPQ 235 (CCPA 1967); In re Otto , 136 USPQ 458, 459 (CCPA 1963); MPEP2111.02).

iii. The apparatus as described in Claim 1, wherein the gas is introduced at low flow rate (108/109; Fig.10), as claimed by claim 4. Applicant's apparatus claim requirements of "introduced at low flow rate" is a claim requirement of intended use. Further, it has been held that claim language that simply specifies an intended use or field of use for the invention generally will not limit the scope of a claim (Walter , 618 F.2d at 769, 205 USPQ at 409; MPEP 2106). Additionally, in apparatus claims, intended use must result in

a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim (In re Casey,152 USPQ 235 (CCPA 1967); In re Otto , 136 USPQ 458, 459 (CCPA 1963); MPEP2111.02).

iv. The apparatus as described in Claim 3, wherein the inert gas is helium and the chemically reactive gas contains oxygen (column 9, lines 29-35), as claimed by claim 5. Applicant's apparatus claim requirements of gas indentity is a claim requirement of intended use. Further, it has been held that claim language that simply specifies an intended use or field of use for the invention generally will not limit the scope of a claim (Walter , 618 F.2d at 769, 205 USPQ at 409; MPEP 2106). Additionally, in apparatus claims, intended use must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim (In re Casey,152 USPQ 235 (CCPA 1967); In re Otto , 136 USPQ 458, 459 (CCPA 1963); MPEP2111.02).

John D. Fales does not teach a radio frequency voltage with a frequency of 13.56MHz. John D. Fales also does not teach atmospheric pressure operation of the plasma apparatus, although higher pressures are permissible (column 2, lines 27-34). However, it is well established that such limitations are statements of intended use (See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963)).

Fales also does not teach a radio frequency voltage (122) applied between the electrically conductive enclosure and the electrode. However, Fales does discuss the positioning of the powered lines across the conductive enclosure (column 9, lines 9-14).

Wooley et al is discussed above. Inclusive, Wooley et al teaches a similar apparatus (Fig.1) for processing materials in an AC power (Fig.1) plasma (column 2, lines 53-65) comprising: an electrically conductive enclosure (26, Fig.1) defining an interior space with a surface and openings for introduction of a gas (28, 30; Fig.1) and for entry and exit of a material (18) to be processed; an electrode (14) situated inside the interior space. Specifically, Wooley et al teaches an AC power applied between the electrically conductive enclosure and the electrode.

It would have been obvious to one of ordinary skill in the art at the time the invention was made for John D. Fales to connect his AC power as being applied between the electrically conductive enclosure and the electrode as taught by Wooley.

Motivation for John D. Fales to connect his AC power as being applied between the electrically conductive enclosure and the electrode as taught by Wooley is drawn to the teachings of Wooley et al whereby "web tension" control loss due to the web sticking to the drum is alleviated in part by plasma flow control and generation by the powering configuration of Wooley et al.

Allowable Subject Matter

8. Claims 7, 8, 16, and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the above or cited closest prior art teach or fairly suggests that Woolley's apparatus (Figure 1) is enclosed by a grounded casing and a first radio frequency voltage having a first phase is applied between Woolley's radio frequency electrode

(14; Figure 1; column 2; lines 45-65) and said grounded casing and a second radio frequency voltage having a second phase offset from said first phase is applied between said electrically conductive enclosure and said grounded casing, as claimed by claim 7 and 16. Donohoe; Kevin G. (US 6290806 B1) teaches applying an RF power source (32; Figure 3) is applied between Donohoe's radio frequency electrode (26) and said grounded casing 24; Figure 3.

Response to Arguments

9. Applicant's arguments with respect to claims 1-17 have been considered but are moot in view of the new grounds of rejection.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: US 6,290,806 B1

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Rudy Zervigon whose telephone number is (571) 272.1442. The examiner can normally be reached on a Monday through Thursday schedule from 8am through 7pm. The official fax phone number for the 1763 art unit is (703) 872-9306. Any Inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Chemical and Materials Engineering art unit receptionist at (571) 272-1700. If the examiner can not be reached please contact the examiner's supervisor, Parviz Hassanzadeh, at (571) 272-1435.